BANGALORE WATER SUPPLY AND SEWERAGE BOARD

Office of the CE (Project)

Cauvery Bhavan III Floor, Bangalore 560009

No. BWSSB/CE(P)/ACE (P)-1,2/ACE(Cst-DCW)/ 326 /2025-26 Dt: 23.05.2025

Addendum No. 1

Name of the Work: Design, Engineering, Construction and Commissioning of Wastewater Treatment Plants along with Operation & Maintenance thereof for Ten Years [Works - A] and Procurement and Construction of Rising Main, Main Sewers and Laterals including Machine holes and Lift Sewage Pumping Stations [Works – B] Hybrid Mode for R.R Nagar & Dasarahalli Zone in 110 Village Areas (Phase-II) Under Karnataka Water Security and Disaster Resilience Program (KWSDRP) – (Contract Package No. BWSSB CE-P/KWSDRP/WBS-I).

Ref: 1.Tender Notification NO. BWSSB/CE(P)/ACE(P)-1,2/ACE(Cst-DCW)/110/2025-26 Dtd:24.04.2025

2. INDENT No. BWSSB/2025-26/WT/WORK_INDENT2250

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In continuation to the above Tender Notification cited under reference, an Addendum-I with respect to subject tender work is issued as below:

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Amendment in Volumes be referred as under

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1.	Volume 1, 3 Qualification of the Tenderer: Clause no. 3.1.2 (b) (ii), Part 16 of 233	**3.1.2 Particular Construction Experience** **(b) Experience in Key Activities:** The Tenderers shall provide evidence that it has a minimum experience in the following key activities, **(ii) Construction Experience- Pipeline** The bidder must have experience in the role of Prime Contractor (Single entity or JV member)/Management Contractor for procurement and construction of pipeline (DWC/RCC/DI) with a minimum diameter of 200 mm & above in any One year during the last 5 year as on date of bid submission involving minimum length of 25 Km.	**Shall be read as** **3.1.2 Particular Construction Experience** **(b) Experience in Key Activities:** The Tenderers shall provide evidence that it has a minimum experience in the following key activities, **(ii) Construction Experience- Pipeline** The bidder must have experience in the role of Prime Contractor (Single entity or JV member)/Management Contractor for procurement and construction of pipeline (DWC/RCC/DI/CI) with a minimum diameter of 200 mm & above in any One year during the last 5 year as on date of bid submission involving minimum length of 25 Km.
2.	Volume 1, 3 Qualification of the Tenderer: Clause no. 3.1.2 (b) (i), Part 15 of 233	**3.1.2 Particular Construction Experience** **(b) Experience in Key Activities:** The Tenderers shall provide evidence that it has a minimum experience in the following key activities, **(i) Experience in Execution of WwTPs** The Tenderer as a sole entity or a Lead Partner and or Partner in a Joint Venture shall have successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing, and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of minimum One (1) No. WwTP of minimum 4 MLD capacity and above, with Biological Nutrient Removal (BNR) technology of process like, A2O, EA, IFAS, MBBR, SBR, with SCADA Integration, to meet effluent standard as BOD ≤ 10 mg/L, COD ≤ 50 mg/L, TSS ≤ 10 mg/L, TN ≤ 10 mg/L, TP ≤ 1 mg/L and fecal coliform<100MPN/100ml and should be in operation for a period of One year during the last 5 years as on date of Bid submission. **Note:** 1. Tenderer must submit the MOU with Technology	**Shall be read as** **3.1.2 Particular Construction Experience** **(b) Experience in Key Activities:** The Tenderers shall provide evidence that it has a minimum experience in the following key activities, **(i) Experience in Execution of WwTPs** The Tenderer as a sole entity or a Lead Partner and or Partner in a Joint Venture shall have successfully completed, including Design, Procurement, Supply, Installation, Construction, Testing, and Commissioning of all Civil, Mechanical, Electrical, and Instrumentation Works of minimum One (1) No. WwTP of minimum 4 MLD capacity and above, with Biological Nutrient Removal (BNR) technology of process like, A2O, EA, IFAS, MBBR, SBR, with SCADA Integration, to meet effluent standard as BOD ≤ 10 mg/L, COD ≤ 50 mg/L, TSS ≤ 20 mg/L, TN ≤ 10 mg/L, TP ≤ 1 mg/L and should be in operation for a period of One year during the last 5 years as on date of Bid submission. **Note:** 1. Tenderer must submit the MOU with Technology

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		provider for proposed process technology (SBR/ IFAS/MBBR) under this contract, failing which the Tender will be considered as technically non-responsive. 2. Technology provider shall provide the evidence that he has successfully supplied the technology for at least 1 (One) WWTP same as 3.1.2 (b)(i).	provider for proposed process technology (SBR/ IFAS/ MBBR) under this contract, failing which the Tender will be considered as technically non-responsive. 2. Technology provider shall provide the evidence that he has successfully supplied the technology same as 3.1.2 (b)(i). 3. If any bidder proposes to use their own in-house SBR/IFAS/MBBR technology, they must clearly demonstrate that the technology is bidders proprietary and has been successfully implemented as defined in Tender Clause No. 3.1.2 (b)(i). The bidder shall also confirm that the SBR Decanter including SCADA system / IFAS media system / MBBR media system, has been entirely designed and manufactured by bidder and has not been sourced from any third-party technology provider. Supporting documents including performance certificates, client references, and detailed documentation shall be submitted along with the bid. In such case, MoU with a third-party technology provider is not required. 4. The Parameters defined in clause 3.1.2 shall be at the outlet of the STP / WwTP.
3.	**Volume-2 / Section-7, Cl. No. 8.18, Pg. No. Part 8 -82 to Part 8-101**	**8.18 Aeration system with allied Equipments** **8.18.1 Tubular Type Diffusers** **&** **8.18.15.2 Diffuser system for IFAS** Fine Bubble Diffuser Detail to be used for IFAS shall be as per the below requirement, only fine bubble PU membrane diffusers shall be acceptable with minimum membrane diffuser to floor coverage area of 8%. Diffusers shall be submerged fine bubble / fine pore, high transfer efficiency, low maintenance, non-buoyant type. Diffusers shall be strip (membrane) type. Material	**<u>Shall be read as</u>** **8.18 Aeration system with allied Equipments** **8.18.1 Tubular Type Diffusers** **<u>(IFAS/SBR/MBBR /Extended Aeration).</u>** **<u>Diffuser specification shall be common for all type of Process as per Cl. no. 8.18.1.</u>** **And the <u>Clause No. 8.18.15.2 to 8.18.15.6 Shall be read as Deleted from the Bid Specification.</u>**

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		of construction for (entire under water system including accessories shall be of non-corrosive Complete diffuser as a unit shall be assembled at the manufacturing factory level. The grid supports shall be made of SS 304. **8.18.15.3 Type of Diffuser System** A fine bubble diffused aeration system shall be applied to aeration tank for oxygenation. The number of diffuser elements can be varied by the bidder depending on the manufacturer selected, subject to the condition that sufficient design calculations are attached along with it and the manufacturer is a standard one having supplied the diffusers to various wastewater treatment plants of similar nature in the installing country. **8.18.15.4 Diffuser Elements** The diffuser elements shall be membrane type and resistant to such ingredients as hydrocarbons, oil and grease. This shall afford a high oxygen transfer rate coupled with a minimal pressure drop besides permitting simple erection onto the horizontal air manifold. They shall have minimal coupling / attachments to the air manifold and shall have self-cleaning properties while in action. Flat surfaces facing upwards as membrane surfaces shall only be accepted. The diffuser unit shall be of corrosion resistant material. The membrane diffusers shall permit connection to the air manifolds of circular or square cross section and the entire lot of diffusers shall be capable of discharging designed flow of air at an average flow (maximum of summer and winter requirement) with the nominal air flow per diffuser per element shall not exceed 80 m3/h/m2 of diffuser surface area when installed in the said aeration tanks. The diffuser grid shall be of fixed type. The headers onto which the diffusers are fixed shall be of standard Imported PE/PVC/UPVC pipe sections of suitable inner	

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		bore and shape with custom fixtures of the diffuser elements as directed by the membrane manufacturers. Alternative pipe materials shall be acceptable provided the same are a mandatory part of the diffuser supplier and the sub-headers have enough counterweight or alternative arrangement to surmount any buoyancy lift from the floor during air charging. The diffusers shall be fixed to bioreactor floor, Fine Bubble Diffused Aeration membrane diffusers with a maximum flux through the diffusers not exceeding 80 m3/m2 membrane area. The air from the blowers which shall have high temperature and should be cooled suitably to avoid damaging the diffuser membranes. The material of diffuser and associated fixtures shall be: Diffusers Membranes -PU Membranes Diffusers Membranes Support -Engineering plastics Non-Corrosive material Under water Air Piping to diffusers -UPVC/PE Air downers to underwater pipe - UPVC/PE The in-tank diffuser piping shall be sized for a velocity less than 21 m/sec. **8.18.15.5 Testing for Diffuser system** All inspection and testing shall be carried out in accordance with relevant Indian Standard and in absence of IS as per Detail Tender Specification or internationally approved equivalent standard at Manufacturer's Work. **8.18.15.6 Air Piping to Diffusers** SS Air headers are to be provided to avoid corrosion and the consequent damage to the fine bubble diffusers. System should allow acid injection and relaxation to ensure proper functioning of fine bubble diffusers.	

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4.	Volume-2 / Section-7, Part 8-83 & Volume-2 / Section-7, Part 5-8	**8.18 Aeration system with allied Equipments** **8.18.1 Tubular Type Diffusers** (n) Provide a back flow prevention device built integrally with the diffuser that prevents backflow into the diffuser and air piping. & **5.11 Design Requirements** • Contractor shall provide back flow prevention mechanism / check valve inside each diffuser to prevent intrusion of liquid and/or solids into the diffuser and air piping under normal operating conditions of aeration system.	**Shall be read as** **8.18 Aeration system with allied Equipments** **8.18.1 Tubular Type Diffusers** (n) Diffuser shall be provided with a back flow prevention device built integrally with the diffuser that prevents backflow or Diffuser membrane slits can also act as a prevention of backflow into the diffuser. Diffuser slits automatically get closed when air supply is stopped into the diffuser and air piping. **5.11 Design Requirements** • Contractor should supply diffusers which are provide with back flow prevention device built integrally with in the diffuser that prevents backflow or Diffuser membrane slits can also act as a prevention of backflow into the diffuser. Diffuser slits automatically get closed when air supply is stopped into the diffuser and air piping.
5.	Volume-2 / Section-7, Part 5 -13	While selecting any type of pump and blower, priority shall be given to higher pump/blower efficiency and lower power consumption and shall ensure that pump/blower can operate at high efficiency throughout its service life. At minimum contractor shall ensure efficiencies of pump/blower as listed below: • Minimum efficiency of Submersible Pumps for TSPS shall be 70% • Minimum efficiency of Axial Tubular Pump (MLR) shall be 70% • Minimum efficiency of RAS Pump (Horizontal/Vertical Non-clog solid handling) shall be 65%. • Minimum efficiency of Sludge Pump (Progressive Cavity/Screw pump) shall be 45%. • Minimum efficiency of Rotary Tri-Lobe blower shall	**Shall be read as** While selecting any type of pump and blower, priority shall be given to higher pump/blower efficiency and lower power consumption and shall ensure that pump/blower can operate at high efficiency throughout its service life. At minimum contractor shall ensure efficiencies of pump/blower as listed below: • Minimum efficiency of Submersible Pumps for TSPS shall be 70%. • Minimum efficiency of Axial Tubular Pump (MLR) shall be 70%. • Minimum efficiency of RAS Pump (Horizontal/Vertical/Submersible Non-clog solid handling) shall be 60%. • Minimum efficiency of Sludge Pump (Progressive Cavity/Screw pump) shall be 45%.

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		be 70%. • Minimum efficiency of Centrifugal Turbo blower shall be 90%.	• Minimum efficiency of Rotary Tri-Lobe blower shall be 70%. • Minimum efficiency of Centrifugal Turbo blower shall be 90%.
6.	**Volume 4, Drawings**	General	AutoCAD format for following drawing nos. are uploaded in Portal. • TN-KWSDRP-WBS1-CV-3006
7.	**Volume-1 F SPECIAL CONDITIONS OF CONTRACT**		**F SPECIAL CONDITIONS OF CONTRACT - Work A** New Clause is added after clause 70 as below. **Clause No. 71, Adjustments for Changes in Legislation** The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract. **F SPECIAL CONDITIONS OF CONTRACT - Work B** New Clause is added after clause 20 as below. **Clause No. 21 Adjustments for Changes in Legislation** The Contract Price shall be adjusted to take account of any increase or decrease in Cost resulting from a change in the Laws of the Country (including the introduction of new Laws and the repeal or modification of existing Laws) or in the judicial or official governmental interpretation of such Laws, made after the Base Date, which affect the Contractor in the performance of obligations under the Contract.

Other conditions remain unaltered.

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